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EXAMINER WINAKUR, ERIC FRANK				
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/820,637  
Filing Date: April 07, 2004  
Appellant(s): DEBRECZENY, MARTIN

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John Rariden  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 4/7/09 appealing from the Office action mailed 10/16/08.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

3,825,335	REYNOLDS	7-1974
5,701,902	VARI et al.	12-1997
5,036,853	JEFFCOAT et al.	8-1991

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 - 4 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Reynolds.

Reynolds teaches an apparatus that includes separate optical fibers each having input ends for receiving light from separate light sources and output ends that are integrated with one another in an ordered array to produce output light that is intermixed in a composite manner (column 2, line 10 - column 3, line 1). The optical fibers have an inner core and outer sheath (cladding) (column 5, line 65 - column 6, line 9). Applicant's claimed apparatus is patentably indistinguishable from the teaching of Reynolds.

Claims 5 - 9, 11 - 16, and 18 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vari et al. in view of Reynolds.

Vari et al. teach an optical measurement arrangement and method (Figure 2) that includes first and second light sources (including emitters at 775, 810, 904 nm) for obtaining oxygen saturation information that are connected with a spatially-homogenizing means including optical fibers (48, 50, 52) for illuminating tissue and collecting light for transmission to a sensor 44. Details of the fiber arrangement are given in column 5, lines 13 - 37. Vari et al. teach that the optical fibers are randomly mixed. Alternately, Reynolds, as described in the paragraph above, teaches that a non-random (alternating, ordered array) arrangement of optical fibers from multiple sources has an intermixed, composite output. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Vari et al. to use a non-random arrangement of the optical fibers at the output, since Vari et al. require a mixed output of the light and Reynolds teaches an alternate manner to provide an intermixed, composite output from optical fibers and it has generally been held to be within the skill level of the art to implement alternate equivalent expedients.

Claims 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vari et al. and Reynolds as applied to claims 8 and 15 above, and further in view of Jeffcoat.

Vari et al. teach an optical measurement arrangement that includes emitters for determining oxygen saturation information (column 6, lines 10 - 25) but do not particularly teach that one of the sources emits essentially in the red region of approximately 660 nm. Vari et al. teach that other optical arrangements may be used in

their device (column 8, lines 59 - 67). Jeffcoat et al. teach an alternate optical measurement arrangement (Figure 4), similar to that of Vari et al., that includes an emitter 16 for 660 nm light and a second emitter 17 for 940 nm light (column 3, lines 4 - 15) that are connected by optical fibers by a single sending path 13 to a measurement location. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the combination of Vari et al. and Reynolds with an emitter for 660 nm light, since Vari et al. teach that additional wavelengths may be included in their arrangement and Jeffcoat et al. teach that 660 nm light is useful in measuring oxygen saturation information.

#### **(10) Response to Argument**

Applicant identifies three grounds of rejection corresponding with the three rejections above. However, the arguments presented with regard to the Second and Third ground overlap with respect to several aspects, and thus will be treated together where appropriate.

With regard to the First ground of rejection, Applicant raises two points. First, Applicant argues that Examiner's position with regard to the preamble, "A physiological sensor", of claims 1 - 4 and 13, namely that it "does not appear to impose any structural limitations on the claimed elements" (from the Office Action mailed April 2, 2008), is improper and the recitation should be considered to constitute a structure. MPEP 2111.02 (which includes reference to relevant court decisions) offers guidance on this matter. In particular, when the preamble 1) provides antecedent basis for structural

limitations in the claim, or 2) is necessary to give meaning to the elements of the body of the claim, or 3) is otherwise essential to understand limitations of the body of the claim, then the preamble is a limitation of the claim. However, when as in the instant application, the language of the body of the claim is sufficient to set out the complete invention, then the claim preamble is not a limitation of the claim. As such, the claim is defined by the elements set forth in the body of the claim, which in claim 1 is the first inlet, the second inlet, the means for spatially homogenizing and the outlet (claim 13 recites a similar arrangement). These elements are illustrated in Applicant's Figure 2. Likewise, Figure 2 of Reynolds discloses a structurally indistinguishable arrangement. Thus, one must conclude that Reynolds meets all of the claim limitations.

Further, Applicant contends that "the sensor outlet must be adapted to direct the spatially homogenized electromagnetic energy to a subject's tissue in such a way to enable measurement of a physiological parameter" and that Reynolds is not so configured (due to its different intended use). However, such an argument is not persuasive because of the structural similarities noted above and because Applicant does not ascribe any particular requirements on their disclosed outlet (see Specification, sentence pages 6 - 7, paragraphs 0021 and 0022) that is required to consider the outlet to be "adapted" in a manner that distinguishes over the structure of Reynolds.

As an additional point, it is noted that in the paragraph bridging pages 2 - 3 of the Final Office action mailed 10/16/08, Examiner noted the difference between claims 1 and 13 (no detector claimed as part of the "sensor") and the other independent claims (having a detector as part of the claimed arrangement). Applicant has not commented

on this point in the Appeal Brief, and thus appears to concede that the claims are of differing scope. These differences appear to give further evidence of the intended scope of the claims, and presence of this differentiation supports Examiner's position that the claims are defined by the elements of the body of the claim. As such, Reynolds is considered to meet the broadest reasonable interpretation of the limitations of claims 1 - 4 and 13.

With regard to the Second and Third grounds of rejection, Applicant alleges that Reynolds is non-analogous art, and therefore is not properly combinable with Vari et al. Applicant refers to an older court case (*Union Carbide*) while in the FINAL rejection Examiner makes reference to a more recent case (*In re ICON* [83 USPQ2d 1746]) in regard to determination of whether a reference is to be considered analogous art. Both cases detail that when a secondary reference is outside of the field of endeavor, it may serve as analogous art if reasonably pertinent to the particular endeavor. As noted in the Final rejection, consistent with the *ICON* ruling, one of skill in the art would look to other teachings involved in addressing homogenizing electromagnetic energy output from light sources for all purposes, since the problems encountered when attempting to homogenize the light would be little affected by where the light was ultimately to be directed (photographic, physiological measurement situations), but rather would be much more dependent on common aspects (details of the optical fibers, differences in the light sources, etc). Applicant re-states portions of their previously presented arguments, and additionally notes that the problem regards homogeneity at a tissue location. Applicant reasons that homogeneity at the sensor outlet is of concern because



of the requirement for homogeneity at the tissue location. Applicant alleges that since Reynolds's photographic lighting system is not concerned with these details, that it is not addressing similar problems, and must be considered non-analogous. However, as noted above, the analysis for determination of whether a reference is to be considered analogous art, consistent with the *ICON* ruling, may look to the teaching with regard to the element to be replaced, not the entirety of the problem addressed by the invention as a whole (see *ICON* Discussion II [A]) where the court notes that Icon's invention is a treadmill with a folding mechanism, but notes that nothing about Icon's folding mechanism requires any particular focus on treadmills, and thus determines that analogous art to Icon's application, when considering the folding mechanism, may come from any area describing hinges, springs, latches, counterweights, or other similar mechanisms. With such an understanding in mind, one must conclude that the homogeneous optical mixing solution of Reynolds falls into the areas of technology that the court instructs one to consider when considering modifications to the optical mixing elements of Vari et al., and therefore, one would consider Reynolds to be analogous art.

Additionally, Applicant alleges that even if Reynolds is considered analogous art, the references are not combinable. Applicant and Examiner agree that Vari et al. teach an arrangement wherein optical signals transmitted via optical fibers are randomly mixed to achieve a homogenized light signal and Reynolds teaches a non-random mixing arrangement to provide an intermixed, composite output. Thus, there does not appear to be dispute that operation of both teachings in their intended manners results in homogenized or intermixed light output. Further, it appears that both arrangements

perform the task of light mixing equally well, and Applicant has not noted any unexpected results with their arrangement. As both teachings of Vari et al. and Reynolds input light from separate optical sources into designated optical fiber bundles, where the various bundles are mixed to achieve a homogenized light output, one of skill would have a reasonable expectation that substitution of a non-random output arrangement (of Reynolds) for a random output arrangement (of Vari et al) would have a predictable result of also yielding a homogenized light output (per MPEP 2143 in discussion of *KSR*, Rationale B). Applicant's arguments regarding no direct prior art recognition of equivalence and no objective evidence of reason to combine are noted. However, direct prior art recognition of equivalence is not the only manner to make a *prima facie* showing, and as demonstrated above, the similarities of the structures and results between Vari et al. and Reynolds with regard to light homogenization, as well as the reasonable expectation of a predictable result is sufficient for such a showing. Further, with regard to the allegation that there is no reason to combine the references, it must be noted that the proposed rejection relies upon the substitution of one light mixing arrangement for the other, and is not for providing Vari et al. with a second (redundant) structure. Thus, the relevance of the argument to the stated combination is unclear, as Applicant has not shown that the alternate methods constitute a teaching away from the stated combination. Without a teaching away from the combination, and in light of the analysis given above, one must conclude that the reasons to combine have been properly established. As such, the Second ground of rejection properly finds basis in the art applied, consistent with relevant legal precedent.

As noted above, the arguments regarding the Third ground of rejection repeat the above points, and thus are refuted for the above stated reasons. Further, Applicant merely alleges that the third reference (Jeffcoat) does not obviate the deficiencies of the combination of Vari et al. in view of Reynolds. However, since the alleged deficiencies have been addressed above, and been shown to be non-persuasive, Jeffcoat need not be used to obviate the deficiencies, and Applicant's additional argument is not sufficient to remove the rejections that are the basis of the Third ground of rejection.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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